

WHAT IS CLAIMED IS:

1. A method of producing a golf ball, molding a cover material mainly composed of a thermoplastic resin into two half shells in turn arranged on a core or an intermediate layer and joined together and then introduced into a mold formed of semispherical pieces, and heat and compression molded to allow a cover to cover the  
5 core, comprising a first step to form the half shell by a heat and compression molding process, and a second step to allow the two half shells to be arranged on the core or the intermediate layer, joined together, and heat and compression molded to mold the cover to have a thickness of 0.3 to 1.5 mm.
2. The method of claim 1, wherein in the second step if the mold has a temperature  $T1^{\circ}\text{C}$  and the half shells start to flow at a temperature  $T2^{\circ}\text{C}$ ,  $T1$  minus  $T2$  is set within a range of  $-3^{\circ}\text{C}$  to  $+10^{\circ}\text{C}$ .
3. The method of claim 1, wherein the half shell is molded to allow the two half shells to have a volume in total of 105% to 120% relative to that of the cover of the golf ball.
4. The method of claim 1, wherein the second step includes a low pressure molding step exerting a pressure set within a range of 0.5 to 5 MPa and a subsequent, high pressure molding step exerting a pressure set within a range of 10 to 15 MPa.
5. The method of claim 1, wherein the cover is designed to have a thickness of 0.3 to 1.0 mm in the produced golf ball.